

Date: Thu, 21 Jul 94 04:30:33 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #204
To: Ham-Homebrew

Ham-Homebrew Digest Thu, 21 Jul 94 Volume 94 : Issue 204

Today's Topics:

 a High Dymnic range Mixer
 LF regs? (2 msgs)
 VHF SWR meter

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 20 Jul 1994 17:41:53 GMT
From: eng.iac.honeywell.com!agreen.iac.honeywell.com!alf@uunet.uu.net
Subject: a High Dymnic range Mixer
To: ham-homebrew@ucsd.edu

jdow@BIX.com (jdow on BIX) wrote:
>>paulbreed@aol.com (PaulBreed) writes:

[del]

>>Has anyone used the new mixer from analog devices?
>>It has a SSB noise figure of 20dB and a dynamic range of 100+ dB
>>Is this noise figure of 20dB Good enough for 10 and 15M?

[del]

>SSB dB is nonsense salesjargon, IMHO.

[del]

Sorry Joanne, I dont agree with that. SSB noise figure has nothing to do with SSB as a transmission mode (vs AM or CW) but rather refers to the fact that there are images to any mixing operation. eg. If the IF is 9MHz and the LO is 135MHz, the rx will receive energy from both 144 and 126 MHz. Thus the noise power will be double in the DSB case, ie the noise figure would be 3dB higher than the SSB case. This is why the manufacturers usually quote the SSB figure, because it is lower. It assumes that you will provide adequate filtering to remove the undesired image _prior_ to the mixer.

BTW, the noise figure, per se, is not related to bandwidth. The noise power, hence s/n ratio is.

73's, Alf NU8I/G4ABB

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Alf Green      | Tel (602) 863 5842      | An organised person is just
Honeywell IAC  | Fax (602) 789 4990      | too lazy to hunt for things.
Phoenix AZ     | alf@agreen.iac.honeywell.com |
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Date: Wed, 20 Jul 94 18:04:43 GMT
From: ihnp4.ucsd.edu!usc!cs.utexas.edu!convex!news.duke.edu!eff!news.kei.com!
travelers.mail.cornell.edu!newstand.syr.edu!galileo.cc.rochester.edu!
news@network.ucsd.edu
Subject: LF regs?
To: ham-homebrew@ucsd.edu

What are the regs for operation on the LF bands? Power output? Modes? Any
licenses required? What freqs are allowed?

-Bill VanRemmen, KA2WFJ
billy@urhep.pas.rochester.edu

My opinions. No one in their right mind would claim otherwise.

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In nature, stupidity gets you killed.

In the workplace, it gets you fired.

In politics, it gets you re-elected.

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Date: Thu, 21 Jul 1994 00:16:11 GMT
From: ihnp4.ucsd.edu!news.cerf.net!ent-img.com!wb6hqk!bart@network.ucsd.edu

Subject: LF regs?

To: ham-homebrew@ucsd.edu

In article <1994Jul20.180443.15129@galileo.cc.rochester.edu>,

Bill VanRemmen <BILLY@urhep.pas.rochester.edu> wrote:

>What are the regs for operation on the LF bands? Power output? Modes? Any
>licenses required? What freqs are allowed?
>

Here is part 15.217 of the FCC regulations.

15.217 Operation in the band 160 - 190 kHz

- (a) The total input power to the final radio frequency stage (exclusive of filament or heater power) shall not exceed one watt.
- (b) The total length of the transmission line, antenna, and ground lead (if used) shall not exceed 15 meters.
- (c) All emissions below 160 kHz or above 190 kHz shall be attenuated at least 20 db below the level of the unmodulated carrier. Determination of compliance with the 20 dB attenuation specification may be based on measurements at the intentional radiator's antenna output terminal unless the intentional radiator uses a permanently attached antenna, in which case compliance shall be demonstrated by measuring the radiated emissions.

Part 15 allows exemption from the type acceptance requirements for hobby and prototype purposes for a limited number of units but you still must adhere to good engineering design, construction and alignment practices.

bart

bart@wb6hpk.ampr.org

Date: 20 Jul 1994 18:08:20 GMT

From: eng.iac.honeywell.com!agreen.iac.honeywell.com!alf@uunet.uu.net

Subject: VHF SWR meter

To: ham-homebrew@ucsd.edu

sbertsch@magnus.acs.ohio-state.edu (Steve Bertsch) wrote:

>Can someone point me to any construction articles on VHF SWR meters? It
>doesn't have to be fancy, or even provide any calibrated power readings;
>the only requirements are that it works on 2 meters and is useable at
>low powers, in the 2 to 6 watt range (for an HT). I only need something

>to trim antennas.

>Before anyone suggests the \$40 one from Radio Shack, it's been discontinued.

>-Steve N8KWV

The easiest one I've ever built used about a 12inch length of RG58. Strip off the outer plastic cover. Get a couple of lengths of thin insulated wire (~22awg) and a darning needle. Thread each length down the cable, between the braid and the inner insulation. Put a small 250ohm pot at opposite ends of each wire down to braid to act as terminations, and on the other ends put series diode (1N914 or sim. works fine) then 470pF cap down to the braid. Use abt 100uA meter and 5k series variable resistor switched between the two diode outputs. Assuming you have a good 50 ohm load, (If not, a 1/2w 47 ohm resistor looks real close at 144), adjust each 250R pot for lowset reading in the reverse direction.

This arrangement works great at the 1 - 10 watt range. For higher powers use RG8 and a shorter length.

I can't give you the original reference, 'cos I first saw this many years ago, probably in a European publication.

Let me know if you have any questions.

73's Alf NU8I/G4ABB

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End of Ham-Homebrew Digest V94 #204
